

- B
A2
could
- (c) depositing a dielectric material on said patterned photoresist;
 - (d) depositing a liftoff layer on said dielectric material;
 - (e) removing portions of said dielectric material and liftoff layer that border said

aperture area;

- (f) implanting regions of the epitaxially grown layers bordering said aperture area, wherein said remaining portion of said dielectric material and said liftoff layer serve as an implantation guide; and

depositing a metal layer on said dielectric material.

A3

4. (Amended) The method of claim 3, wherein said top semiconductor Distributed Bragg Reflector stack comprises alternating layers of aluminum gallium arsenide, and aluminum arsenide.

A4

13. (Amended) The method of claim 1, wherein said laser is a vertical cavity surface emitting laser.

A5

15. (Amended) A laser comprising:
a substrate;
a laser area positioned upon said substrate
a dielectric mirror positioned upon said laser area; and
an implanted region bordering said laser area.

16. (Amended) The laser of claim 15, wherein said laser area comprise a bottom semiconductor Distributed Bragg Reflector stack, an active region and a top semiconductor Distributed Bragg Reflector stack.

A6

18. (Amended) The laser of claim 17, wherein said top semiconductor Distributed Bragg Reflector stack has alternating layers of aluminum gallium arsenide and aluminum arsenide.

B
A7

28. (Amended) A vertical cavity surface emitting laser comprising:
a substrate;
a bottom semiconductor Distributed Bragg Reflector stack;
an active region comprising an aperture where light is emitted;
a top semiconductor Distributed Bragg Reflector stack; and
a dielectric mirror positioned directly on said top semiconductor Distributed Bragg Reflector stack over said aperture of said active region
wherein said bottom semiconductor Distributed Bragg Reflector stack and said top semiconductor Distributed Bragg Reflector stack comprise epitaxial layers and said bottom semiconductor Distributed Bragg Reflector stack comprises more epitaxial layers than said top semiconductor Distributed Bragg Reflector stack.

A8

32. (Amended) A vertical cavity surface emitting laser comprising:
a substrate;
a bottom semiconductor Distributed Bragg Reflector stack;
an active region comprising an aperture area where light is emitted;
a top semiconductor Distributed Bragg Reflector stack;
an implanted region within said substrate, said implanted region bordering said aperture area; and
a dielectric mirror positioned directly on said top semiconductor Distributed Bragg Reflector stack over said aperture area of said active region, said dielectric mirror functioning as a guide to form said implanted region,
wherein said bottom semiconductor Distributed Bragg Reflector stack and said top semiconductor Distributed Bragg Reflector stack comprise epitaxial layers and said bottom semiconductor Distributed Bragg Reflector stack comprises more epitaxial layers than said top semiconductor Distributed Bragg Reflector stack.